Chapter 1

Army XXI

Joint and enemy forces with capabilities that have increased since the Cold War, or even the Persian Gulf War, will man the battlefield of the future. This chapter discusses the operational environment, technological advances, battlefield visualization, visual information (VI) support, and the operational impact.

OPERATIONAL ENVIRONMENT

1-1. Within the next few years, the Army may find itself involved in operations in a variety of sophisticated environments. Soldiers will conduct activities ranging from battles against major regional powers to stability operations within failed states dominated by competing paramilitary factions. Conflict, wherever it may occur, will share several characteristics: expanded areas of operations, urban and other complex terrain, and multidimensional operations.

1-2. The Army may also face threats from urban-based paramilitary groups, state-sponsored terrorists, weapons of mass destruction (WMD), offensive information operations (IO), and diplomatic actions before open hostilities begin. Through doctrine development, experimentation, simulation exercises, and experience, the operational concepts of Army XXI have evolved. These concepts are designed to meet these threats and achieve full spectrum dominance on the battlefield of the future.

BATTLEFIELD CHARACTERISTICS

1-3. The battlefield of the future will be increasingly complex. The nature of future operations and the battlefield they will be waged on are best described as—

- **Multidimensional.** Existing throughout the height, width, and depth of the area of operations and electromagnetic spectrum.
- **Precise.** Taking full advantage of the capabilities inherent in digitized information systems; strategic, operational, and tactical sensors; and simulations to execute operations with pinpoint accuracy.
- **Noncontiguous.** Encompassing a fluid concept of decisive, shaping and sustainment operations, which change as the factors of mission, enemy, terrain and weather, time, troops available, and civilian considerations (METT-TC) change.

- **Distributed.** Executing operations where or when required and achieving masterful effects at decisive points because of mission command, which empowers subordinates to operate independently within the commander's intent.
- **Simultaneous.** Conducting concurrent decentralized operations across the complete battlefield spectrum to achieve the mission objectives.
- **Integrated.** Army operations fully integrated with joint, interagency, multinational, and nongovernmental partners.

1-4. A constantly changing battlespace will require the ability to command and control (C2) on the move as enclaves move and operate in dynamic environments.

THREAT

1-5. The global environment during the early twenty-first century will be one of instability. The information technology (IT) revolution, the evolution to a global marketplace, and the population explosion in the developing world have already, in some countries, caused the collapse of governmental control and an increase of nongovernmental military or paramilitary forces.

1-6. Although no single power has the means to threaten the United States, some regional or local powers may be able to employ advanced military technologies relatively inexpensively. Our adversaries will use technology to wage asymmetric warfare if they cannot compete in a more conventional sense. Thus, the character of future military operations can no longer be anticipated merely by analyzing an adversary's relative geographic size or stage of economic development.

OPERATING CONCEPT

1-7. Army XXI will be more resource-efficient, with capabilities enhanced through Information Age technologies. It will be more responsive, deployable, agile, versatile, lethal, survivable, and sustainable than the current force. It will have a smaller deployed support footprint and fewer lift requirements. This streamlining will allow for rapid, effective, and efficient power projection to any area of the world. The resulting force will be able to place a combat-capable brigade anywhere in the world in 96 hours, a division on the ground in 120 hours, and five divisions into a theater within 30 days.

1-8. Rapidly advancing IT will provide new systems to efficiently execute this mission as resources, both materiel and people, are reduced. Information systems, in particular, will be revolutionized, with emphasis on the near real-time exchange of information between users throughout the battlespace. The result will be in more readily available and up-to-date information. This will improve split-based operations and give leaders and soldiers access to information needed to adapt tactics, techniques, and procedures (TTP) in varied scenarios, on both tactical and strategic levels. Effective battle command will be crucial on future conventional battlefields and depends largely on the information available to and the actions of quality soldiers and competent leaders.

TECHNOLOGICAL ADVANCES

1-9. To realize the objective of Army XXI, technological solutions will more efficiently equip the smaller, more mobile, modular force. The Army will reorganize and equip the force with current commercial off-the-shelf (COTS) technology, while at the same time develop the technologies needed to create a family of systems that are lethal, mobile, and survivable. The new weapons systems will offer survivability through low observable platforms, ballistic protection, long-range acquisition, deep targeting, early attack, and first round kills at smaller caliber. Logistical and communications systems will be smaller, more mobile, and extremely versatile to support this newly equipped force.

1-10. The military information environment (MIE) has become increasingly complex as a result of digitization. Integrated command, control, communications, computers, information, surveillance, and reconnaissance (C4ISR) systems will provide a common operating picture (COP). This information is critical to the commander on the ground for C2 and situational awareness (SA). More emphasis will be placed on sophisticated communications and intelligence reach-back systems to enhance the COP, increase agility and flexibility, and facilitate rapid transition from one point on the battle spectrum to another. The information and resulting SA these tools contribute are critical to the battle visualization process.

BATTLEFIELD VISUALIZATION

1-11. Battlefield visualization is a three-step command process. First, the commander develops a clear understanding of the current situation with relation to the enemy and environment. Next, he envisions a desired end state. Finally, he visualizes the sequence of activity that will move his force from its current situation to the desired end state.

1-12. Battlefield visualization goes beyond understanding the basic factors of the physical location, environment, equipment, and supply readiness of friendly and enemy forces. It also includes understanding human factors, such as fatigue and morale, and the decision-making processes and information requirements of each respective force.

1-13. IO and the products of the various information systems will be crucial tools for the commander to use in the battlefield visualization process. Human intelligence (HUMINT), coupled with technology-supplied information, will provide the commander with a comprehensive view of the battlefield. This will reduce uncertainty, minimize risk, promote clear and rapid transmission of intent and orders, and facilitate the decisive employment of combat power. Doctrinal, training, organizational, leadership, materiel, and soldier efforts will be integrated to provide the commander the frame of reference to clearly see and understand the battlefield in this manner.

VI SUPPORT

1-14. The commander is surrounded by common-user systems that provide information. In order to capitalize on the benefits this new technology offers, the commander must fully grasp the applications, advantages, effects, and limitations of these systems and their products. The same is true in regard to the organic and attached VI assets at the commander's disposal. Commanders at all levels must understand the capabilities and potential uses of VI assets and the far-reaching effects of VI products. As the result of a shrinking MIE, imagery plays an important role in shaping events; and VI products and imagery have the potential to profoundly affect and influence operational success.

OPERATIONAL IMPACT

1-15. The transformation to Army XXI will result in a modular, more agile force, equipped with state-of-the-art weaponry and armed with information provided by new technologies. The force will be able to reach trouble spots quickly and arrive fully prepared for de-escalation and a return to stability or to prosecute war intensely, whichever is called for. The force will be able to operate in a joint, multinational, or coalition environment. The force will also be able to take on a variety of missions, from humanitarian assistance to peacekeeping to major theater wars, including conflicts involving the potential use of WMD. Information will be the key to victory in upcoming conflicts, and VI forces and products will play a critical role in providing it.